**Template | Unit Enhancement**

***EXPLANATION & ARGUMENTATION***

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**Background Information**

**Instructional Materials Title: Sound Unit**

**Publication Date: August 23rd, 2013**

**Work Group Participants: Tiffany Evenstad, Jeannie Revello, Stephanie Chen, Erin Bell**

**Date Developed: August 21st, 2013**

**High Leverage Lesson (Title and Page Number): Lesson 8, page 31 in Instructional Guide**

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**Rationale**

· **Why we identified this particular lesson: It helps students understand the big idea that sound causes objects to vibrate.**

**- Connections to NGSS Practices and WA Science Standards: Learn to use CER framework to make a claim using evidence and reasoning.**

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***Explanation* Lesson Enhancement**

**Overview**

· **Identification of where within the High Leverage Lesson to insert enhancement**

· **Key instructional strategies and tools needed**

**Part 1: Lesson Modifications to Lead Up to *Explanation* Experience**

**1.At the end of step 1 of reflect and explain.**

**Part 2: *Explanation* Learning Sequence**

**1.Focus Question: What causes the tea leaves to move?**

**Claim: Sound from the noisemaker causes the latex to vibrate which causes the tealeaves to move.**

**2. Evidence: The noisemaker makes noise, the tealeaves move and the noisemaker is not touching anything.**

**3. Reasoning refers to scientific facts: I know that the sound from the noisemaker causes the latex to vibrate. I know that because sound travels through air and the tealeaves move because the latex vibrates.**

**Part 3-A: Describe Assessment Task**

*Include the* ***question****,* ***evidence*** *students will use, and* ***scientific concepts*** *students will use in their reasoning.*

**Part 3-B: Assessment Rubric**

|  |  |  |  |
| --- | --- | --- | --- |
| **4** | **3** | **2** | **1** |
| **States claim, evidence and complete reasoning.** | **States claim, evidence, and some or incomplete reasoning.** | **States claim, evidence.** | **States only claim and some or incomplete evidence.** |

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**Additional Information**

NOTES

· Information that will be useful when teaching this lesson

* - Resources that will be useful: Some other materials that produce air other than the noisemaker. In addition, possibly using a KLEWs chart in conjunction with the data table. Furthermore, using the flow chart SPS writing packet p.12.

|  |  |
| --- | --- |
| **COMPONTENT** | **DESCRIPTION** |
| KNOW (K) | Document the uncovering of prior knowledge by asking, “what do you think you know about \_\_\_\_\_?” |
| LEARNING (L) | This is the **CLAIM** column.  Entries are based on statements of learning in response to the guiding question. |
| EVIDENCE (E) | **Evidence** is added to the chart when students share their observations before claims are constructed.  Arrows are used on the chart to connect claims to multiple pieces of evidence |
| WONDERINGS (W) | Testable questions are documented as they arise and every effort is made to test them at some point in the unit. Testable questions often surface during investigations.  *Misconceptions can be rephrased as testable questions.* |
| SCIENTIFIC PRINCIPLES (S) | Throughout the science unit, science concepts are added to this column. They are used during discourse to build a more complete explanation by further elaborating the connection among claims and evidence. |

- Scaffolds that students will use: Students can draw a diagram of the investigation and during the discussion the students can use the following sentence frame.

Claim: I know that \_\_\_\_\_\_\_\_\_\_\_\_\_\_ causes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

My evidence is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and this happens because I have learned that

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.